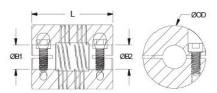




PCMR32-12-10-A

Ruland PCMR32-12-10-A, 12mm x 10mm Four Beam Coupling, Aluminum, Clamp Style, 31.8mm OD, 38.1mm Length





Description

Ruland PCMR32-12-10-A is a clamp style four beam coupling with 12mm x 10mm bores, 31.8mm OD, and 38.1mm length. It is machined from a single piece of material and feature two sets of two spiral cuts. This gives it higher torque capacity, lower windup, and larger body sizes than single beam couplings. PCMR32-12-10-A is zero-backlash and has a balanced design for reduced vibration at high speeds of up to 6,000 RPM. This four beam spiral coupling is zero-backlash and has a balanced design for reduced vibration at high speeds of up to 6,000 RPM. All hardware is metric and tests beyond DIN 912 12.9 standards for maximum torque capabilities. PCMR32-12-10-A is made from 7075 aluminum for lightweight and low inertia. It is machined from bar stock that is sourced exclusively from North American mills and RoHS3 and REACH compliant. PCMR32-12-10-A is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

Product Specifications

B1 Max Shaft Penetration 17.6 mm B2 Max Shaft Penetration 17.6 mm Duter Diameter (OD) 31.8 mm Bore Tolerance +0.025 mm / -0.000 mm -	i roddot opoomodtiono			
Duter Diameter (OD) 31.8 mm Recommended Shaft Tolerance +0.025 mm / -0.000 mm -0.013 mm Cap Screw M4 Screw Material Alloy Steel Hetx Wrench Size Seating Torque 4.6 Nm Number of Screws 2 ea Dynamic Torque Reversing 1.47 Nm Angular Misalignment 3° Dynamic Torque Non-Reversing 2.94 Nm Parallel Misalignment 3° Dynamic Torque Non-Reversing 5.88 Nm Axial Motion 0.25 mm Corsional Stiffness 1.10 Deg/Nm Moment of Inertia 9.948 x10 ⁻⁶ kg-m² Cor-Backlash? Yes Balanced Design Yes Cor-Backlash? Yes Balanced Design Yes Cordenature Material Specification 7075-T651 Extruded and Drawn Aluminum Bar Finish Specification Bright, No Plating Manufacturer Aluminum Bar Finish Specification Bright, No Plating Manufacturer Ruland Manufacturing Country of Origin USA Weight (Ibs) 0.132200 JUSPC 31163003 Note 1 Torque ratings are at maximum misalignment. Note 2 Performance ratings are for guidance only. The user must determine suitability for a particular application Note 3 Torque ratings for the couplings are based on the physical limitations/failure point of the machined beams. In some cases, especially when the smallest standard bores are used or where shafts are undersized, slippage on the shaft is possible below the rated torque of the machined beams. Please constechnical support for more assistance. Prop 65	Bore (B1)	12 mm	Small Bore (B2)	10 mm
Length (L) 38.1 mm Recommended Shaft Tolerance +0.000 mm / -0.013 mm Cap Screw M4 Screw Material Alloy Steel Alloy Alloy Alloy Alloy And Moder As Parallel Misalignment As Allol Mothon Axial Motion Alloy Alloy And Manufacturing Alloy F to 225°F (-40°C to 107°C) Alloy F to 225°F (-40°C to 107	B1 Max Shaft Penetration	17.6 mm	B2 Max Shaft Penetration	17.6 mm
Tap Screw M4 Screw Material Alloy Steel Black Oxide Screw Finish Black Oxide Black Oxide Black Oxide Seating Torque 4.6 Nm Number of Screws 2 ea Dynamic Torque Reversing 1.47 Nm Angular Misalignment 3° Dynamic Torque Non-Reversing 2.94 Nm Parallel Misalignment 5.88 Nm Axial Motion 0.25 mm Forsional Stiffness 1.10 Deg/Nm Moment of Inertia 9.948 x10⁻⁶ kg-m² Maximum Speed 6,000 RPM Full Bearing Support Required? Yes Zero-Backlash? Yes Balanced Design Yes Torque Wrench Material Specification 7075-7651 Extruded and Drawn Aluminum Bar Finish Specification Bright, No Plating Manufacturer Manufacturer Ruland Manufacturing DyPC 634529032183 Tariff Code 8483.60.8000 JINSPC 31163003 Note 1 Torque ratings are at maximum misalignment. Note 2 Performance ratings are for guidance only. The user must determine suitability for a particular application Note 3 Torque ratings for the couplings are based on the physical limitations/failure point of the machined beams. In some cases, especially when the smallest standard bores are used or where shafts are undersized, slippage on the shaft is possible below the rated torque of the machined beams. Please constechnical support for more assistance. Prop 65 AWARNING This product can expose you to the chemical Ethylene Thiourea, known to the State of California to cause cancer and birth defects or other reproductive ham. For more information go to	Outer Diameter (OD)	31.8 mm	Bore Tolerance	+0.025 mm / -0.000 mm
Screw Finish Black Oxide	Length (L)	38.1 mm	Recommended Shaft Tolerance	+0.000 mm / -0.013 mm
Seating Torque 4.6 Nm Number of Screws 2 ea Dynamic Torque Reversing 1.47 Nm Angular Misalignment 3° Dynamic Torque Non-Reversing 2.94 Nm Parallel Misalignment 0.38 mm Static Torque 5.88 Nm Axial Motion 0.25 mm Torsional Stiffness 1.10 Deg/Nm Moment of Inertia 9.948 x10° kg-m² Maximum Speed 6,000 RPM Full Bearing Support Required? Yes Zero-Backlash? Yes Balanced Design Yes Torque Wrench TW:BT-1R-1/4-41.0 Recommended Hex Key Metric Hex Keys Material Specification 7075-7651 Extruded and Drawn Aluminum Bar Finish Specification Bright, No Plating Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.132200 UNSPC 31163003 Note 1 Torque ratings are at maximum misalignment. Note 2 Performance ratings are for guidance only. The user must determine suitability for a particular application Note 3 Torque ratings for the couplings are based on the physical limitations/failure point of the machined beams Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machined beams. In some cases, especially when the smallest standard bores are used or where shafts are undersized, slippage on the shaft is possible below the rated torque of the machined beams. Please constechnical support for more assistance. Prop 65 AWARNING This product can expose you to the chemical Ethylene Thiourea, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to	Cap Screw	M4	Screw Material	Alloy Steel
Dynamic Torque Reversing 1.47 Nm	Hex Wrench Size	3.0 mm	Screw Finish	Black Oxide
Dynamic Torque Non-Reversing 2.94 Nm Parallel Misalignment 0.38 mm Static Torque 5.88 Nm Axial Motion 0.25 mm Forsional Stiffness 1.10 Deg/Nm Moment of Inertia 9.948 x10 ⁻⁶ kg-m ² Maximum Speed 6,000 RPM Full Bearing Support Required? Yes Zero-Backlash? Yes Balanced Design Yes Forque Wrench TW:BT-1R-1/4-41.0 Recommended Hex Key Metric Hex Keys Material Specification 7075-7651 Extruded and Drawn Aluminum Bar Finish Specification Bright, No Plating Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.132200 JPC 634529032183 Tariff Code 8483.60.8000 JNSPC 31163003 Note 1 Torque ratings are at maximum misalignment. Note 2 Performance ratings are for guidance only. The user must determine suitability for a particular application Note 2 Performance ratings are based on the physical limitations/failure point of the machined beams. Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machined beams. In some cases, especially when the smallest standard bores are used or where shafts are undersized, slippage on the shaft is possible below the rated torque of the machined beams. Please cons technical support for more assistance. Prop 65 AWARNING This product can expose you to the chemical Ethylene Thiourea, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to	Seating Torque	4.6 Nm	Number of Screws	2 ea
Static Torque 5.88 Nm Axial Motion 0.25 mm Forsional Stiffness 1.10 Deg/Nm Moment of Inertia 9.948 x10 ⁻⁶ kg-m ² Maximum Speed 6,000 RPM Full Bearing Support Required? Yes Zero-Backlash? Yes Balanced Design Yes Torque Wrench TW.BT-1R-1/4-41.0 Recommended Hex Key Metric Hex Keys Material Specification 7075-T651 Extruded and Drawn Aluminum Bar Finish Specification Bright, No Plating Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.132200 JPC 634529032183 Tariff Code 8483.60.8000 JNSPC 31163003 Note 1 Torque ratings are at maximum misalignment. Note 2 Performance ratings are for guidance only. The user must determine suitability for a particular application Torque ratings for the couplings are based on the physical limitations/failure point of the machined beams Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machined beams. In some cases, especially when the smallest standard bores are used or where shafts are undersized, slippage on the shaft is possible below the rated torque of the machined beams. Please cons technical support for more assistance. Prop 65 MARNING This product can expose you to the chemical Ethylene Thiourea, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to	Dynamic Torque Reversing	1.47 Nm	Angular Misalignment	3°
Torsional Stiffness 1.10 Deg/Nm Moment of Inertia 9.948 x10 ⁻⁶ kg-m ² Maximum Speed 6,000 RPM Full Bearing Support Required? Yes Zero-Backlash? Yes Balanced Design Yes Torque Wrench TW:BT-1R-1/4-41.0 Recommended Hex Key Metric Hex Keys Material Specification 7075-T651 Extruded and Drawn Aluminum Bar Finish Specification Bright, No Plating Manufacturer Ruland Manufacturing Country of Origin USA Weight (Ibs) 0.132200 UPC 634529032183 Tariff Code 8483.60.8000 UNSPC 31163003 Note 1 Torque ratings are at maximum misalignment. Note 2 Performance ratings are for guidance only. The user must determine suitability for a particular application Torque ratings for the couplings are based on the physical limitations/failure point of the machined beams Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machined beams. In some cases, especially when the smallest standard bores are used or where shafts are undersized, slippage on the shaft is possible below the rated torque of the machined beams. Please cons technical support for more assistance. Prop 65 MARNING This product can expose you to the chemical Ethylene Thiourea, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to	Dynamic Torque Non-Reversing	2.94 Nm	Parallel Misalignment	0.38 mm
Maximum Speed Gero-Backlash? Yes Balanced Design Yes Torque Wrench TW:BT-1R-1/4-41.0 Recommended Hex Key Metric Hex Keys Material Specification 7075-T651 Extruded and Drawn Aluminum Bar Finish Specification Bright, No Plating Manufacturer Ruland Manufacturing Country of Origin USA Weight (Ibs) 0.132200 JPC 634529032183 Tariff Code 8483.60.8000 JNSPC 31163003 Note 1 Torque ratings are at maximum misalignment. Note 2 Performance ratings are for guidance only. The user must determine suitability for a particular application Note 3 Torque ratings for the couplings are based on the physical limitations/failure point of the machined beams. Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machined beams. In some cases, especially when the smallest standard bores are used or where shafts are undersized, slippage on the shaft is possible below the rated torque of the machined beams. Please constechnical support for more assistance. Prop 65 MARNING This product can expose you to the chemical Ethylene Thiourea, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to	Static Torque	5.88 Nm	Axial Motion	0.25 mm
Tero-Backlash? Yes Balanced Design Yes Torque Wrench TW:BT-1R-1/4-41.0 Recommended Hex Key Metric Hex Keys Tomperature -40°F to 225°F (-40°C to 107°C) Aluminum Bar Finish Specification Bright, No Plating Manufacturer Ruland Manufacturing Country of Origin USA Weight (Ibs) 0.132200 JPC 634529032183 Tariff Code 8483.60.8000 JNSPC 31163003 Note 1 Torque ratings are at maximum misalignment. Note 2 Performance ratings are for guidance only. The user must determine suitability for a particular application Torque ratings for the couplings are based on the physical limitations/failure point of the machined beams. Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machined beams. In some cases, especially when the smallest standard bores are used or where shafts are undersized, slippage on the shaft is possible below the rated torque of the machined beams. Please constechnical support for more assistance. Prop 65 MARNING This product can expose you to the chemical Ethylene Thiourea, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to	Torsional Stiffness	1.10 Deg/Nm	Moment of Inertia	9.948 x10 ⁻⁶ kg-m ²
Torque Wrench TW:BT-1R-1/4-41.0 Recommended Hex Key Metric Hex Keys To755-T651 Extruded and Drawn Aluminum Bar Finish Specification Bright, No Plating Manufacturer Weight (lbs) Meight (lbs) USA Weight (lbs) Weight (lbs) Wote 1 Word a training are at maximum misalignment. Note 2 Performance ratings are for guidance only. The user must determine suitability for a particular application Torque ratings for the couplings are based on the physical limitations/failure point of the machined beams. Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machined beams. In some cases, especially when the smallest standard bores are used or where shafts are undersized, slippage on the shaft is possible below the rated torque of the machined beams. Please constechnical support for more assistance. Prop 65 WARNING This product can expose you to the chemical Ethylene Thiourea, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to	Maximum Speed	6,000 RPM	Full Bearing Support Required?	Yes
Material Specification 7075-T651 Extruded and Drawn Aluminum Bar Finish Specification Bright, No Plating Manufacturer Country of Origin USA Weight (lbs) USA	Zero-Backlash?	Yes	Balanced Design	Yes
Aluminum Bar Finish Specification Bright, No Plating Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.132200 JPC 634529032183 Tariff Code 8483.60.8000 JNSPC 31163003 Note 1 Torque ratings are at maximum misalignment. Note 2 Performance ratings are for guidance only. The user must determine suitability for a particular application Torque ratings for the couplings are based on the physical limitations/failure point of the machined beams Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machined beams. In some cases, especially when the smallest standard bores are used or where shafts are undersized, slippage on the shaft is possible below the rated torque of the machined beams. Please cons technical support for more assistance. Prop 65 AWARNING This product can expose you to the chemical Ethylene Thiourea, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to	Torque Wrench	TW:BT-1R-1/4-41.0	Recommended Hex Key	Metric Hex Keys
USA Weight (lbs) 0.132200 JPC 634529032183 Tariff Code 8483.60.8000 JNSPC 31163003 Note 1 Torque ratings are at maximum misalignment. Note 2 Performance ratings are for guidance only. The user must determine suitability for a particular application Torque ratings for the couplings are based on the physical limitations/failure point of the machined beams Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machined beams. In some cases, especially when the smallest standard bores are used or where shafts are undersized, slippage on the shaft is possible below the rated torque of the machined beams. Please constechnical support for more assistance. Prop 65 MARNING This product can expose you to the chemical Ethylene Thiourea, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to	Material Specification		Temperature	-40°F to 225°F (-40°C to 107°C)
JPC 634529032183 Tariff Code 8483.60.8000 JNSPC 31163003 Note 1 Torque ratings are at maximum misalignment. Note 2 Performance ratings are for guidance only. The user must determine suitability for a particular application Note 3 Torque ratings for the couplings are based on the physical limitations/failure point of the machined beams Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machined beams. In some cases, especially when the smallest standard bores are used or where shafts are undersized, slippage on the shaft is possible below the rated torque of the machined beams. Please constechnical support for more assistance. Prop 65 MARNING This product can expose you to the chemical Ethylene Thiourea, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to	Finish Specification	Bright, No Plating	Manufacturer	Ruland Manufacturing
UNSPC Note 1 Torque ratings are at maximum misalignment. Note 2 Performance ratings are for guidance only. The user must determine suitability for a particular application Note 3 Torque ratings for the couplings are based on the physical limitations/failure point of the machined beams Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machined beams. In some cases, especially when the smallest standard bores are used or where shafts are undersized, slippage on the shaft is possible below the rated torque of the machined beams. Please cons technical support for more assistance. Prop 65 ■ WARNING This product can expose you to the chemical Ethylene Thiourea, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to	Country of Origin	USA	Weight (lbs)	0.132200
Note 1 Torque ratings are at maximum misalignment. Note 2 Performance ratings are for guidance only. The user must determine suitability for a particular application. Note 3 Torque ratings for the couplings are based on the physical limitations/failure point of the machined beams. Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machined beams. In some cases, especially when the smallest standard bores are used or where shafts are undersized, slippage on the shaft is possible below the rated torque of the machined beams. Please constechnical support for more assistance. Prop 65 WARNING This product can expose you to the chemical Ethylene Thiourea, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to	UPC	634529032183	Tariff Code	8483.60.8000
Performance ratings are for guidance only. The user must determine suitability for a particular application Torque ratings for the couplings are based on the physical limitations/failure point of the machined beams Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machined beams. In some cases, especially when the smallest standard bores are used or where shafts are undersized, slippage on the shaft is possible below the rated torque of the machined beams. Please cons technical support for more assistance. Prop 65 WARNING This product can expose you to the chemical Ethylene Thiourea, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to	UNSPC	31163003		
Torque ratings for the couplings are based on the physical limitations/failure point of the machined beams Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machined beams. In some cases, especially when the smallest standard bores are used or where shafts are undersized, slippage on the shaft is possible below the rated torque of the machined beams. Please cons technical support for more assistance. Prop 65 WARNING This product can expose you to the chemical Ethylene Thiourea, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to	Note 1	Torque ratings are at maximum misalignment.		
Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machined beams. In some cases, especially when the smallest standard bores are used or where shafts are undersized, slippage on the shaft is possible below the rated torque of the machined beams. Please constechnical support for more assistance. Prop 65 WARNING This product can expose you to the chemical Ethylene Thiourea, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to	Note 2	Performance ratings are for guidance only. The user must determine suitability for a particular application.		
Prop 65 ▲WARNING This product can expose you to the chemical Ethylene Thiourea, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to	Note 3	Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machined beams. In some cases, especially when the smallest standard bores are used or where shafts are undersized, slippage on the shaft is possible below the rated torque of the machined beams. Please consult		
	Prop 65	California to cause cancer and birth defects or other reproductive harm. For more information go to		

Installation Instructions

1. Align the bores of the PCMR32-12-10-A four beam coupling on the shafts that are to be joined and

- determine if the misalignment parameters are within the limits of the coupling. (*Angular Misialignment:* 3°, *Parallel Misalignment:* 0.38 mm, *Axial Motion:* 0.25 mm)
- 2. Fully tighten the M4 screw on one hub to the recommended seating torque of 4.6 Nm using a 3.0 mm hex torque wrench.
- 3. Before tightening the screws on the second hub, rotate the coupling by hand to allow it to reach its free length.
- Tighten the screws on the second hub to the recommended seating torque. Make sure the coupling remains axially relaxed and the misalignment angle remains centered along the length of the coupling.
- 5. The shafts may extend into the relieved portion of the bore as long as it does not exceed the shaft penetration length of 17.6 mm.